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The Living Arrangements of U.S. Teachers, 1860-1910

Kitae Sohn*

Abstract: »Die Lebensverhältnisse von US-amerikanischen Lehrerinnen und Lehrern, 1860-1910«. Most of the historical research on the daily lives of US teachers relies on qualitative sources such as diaries, letters, memoirs, and missionary reports. Using the US census data from 1860 to 1910, this paper attempts to go beyond sketching impressions of their daily lives, focusing instead on the living arrangements of teachers by region, gender, and race. The main result is that about 70 percent of teachers lived in a nuclear family and 15 percent of them lived with non-relatives; this is more or less true regardless of regions, genders, and races. In addition to descriptive analyses, a multinomial logit model is applied to provide a more systematic way of finding the determinants of the living arrangements and measuring the sizes of their effects. This paper demonstrates a possibility of deepening our understanding of the daily lives of teachers in the past by combining nationally representative data with topics of daily lives.

Keywords: living arrangements, teachers, United States, postbellum.

1. Introduction

Education is a stream of structured intellectual dialogues between teachers and students. And yet, teachers have largely been ignored in the history of US education. Clifford (1975a, 262) describes this neglect as a “virtual invisibility of teachers,” and attempts to re-position teachers at the center of the history of education (Clifford 1975b). Since then, feminists have joined the research to provide a new perspective on the profession, largely because teaching has become feminized (e.g., Strober and Best 1979; Strober and Tyack 1980).

However, most of the research on the history of teachers emphasizes occupational and demographic characteristics of teachers, failing to illuminate their daily lives. Among the many aspects of daily life, living arrangements are of importance because they can affect not only the decision to enter the profession but also day-to-day lives outside school, the extent of interactions with students, and the quality of instruction. For example, if a teacher boards in her student’s household, which was not uncommon in the nineteenth century, it is

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inevitable to remain in constant contact with the student regardless of the teacher's intention. Alternatively, if a teacher lives with strangers rather than acquaintances, tensions and uncomfortable feelings may adversely affect the quality of instruction.

This research also provides us with insight into various aspects of teachers: who these teachers were, how permanent their careers were as teachers, whether they were able to support a family on their income, and whether these answers differed by region, gender, and race. In addition, a broader analysis of the living arrangements of teachers compared to other individuals with similar characteristics would help us understand whether teachers were different in some sense relative to their peers. Hence, the living arrangements do not concern just who lived with whom, but are also related to a variety of issues concerning teachers and teaching.

At present, the absolute majority of teachers live in a nuclear family regardless of their marital status. For example, 94.1 percent of teachers lived in such a form in 2000.¹ This was not the case in the past. Evidence of diverse forms of living arrangements is only scattered in qualitative sources such as diaries, letters, memoirs, and missionary reports. To make matters worse, most of the times, the living arrangements are not explicitly stated but have to be inferred from the contexts. More important, it is difficult to appreciate how typical their living arrangements were in relation to region, gender, and race. Even if evidence from qualitative sources accurately reflects reality, which is doubtful, the specific proportion of each form of living arrangements is still unknown; impressions abound, but numbers lack. Perlmann and Margo (1989, 70) raise the same issue and suggest using the US census to fill the gap in the literature. To the best of my knowledge, this paper is the first to follow this suggestion.

By shedding light on the living arrangements of teachers by region, gender, and race, this paper provides background information for a broad understanding of the daily lives of teachers in the past. In addition, the background information can be used for subsequent research on related topics. The period of interest is between 1860 and 1910 because fundamental events in the history of education such as feminization and bureaucratization took place in this period. The census is one of the best sources for our purposes because the data are nationally representative, periodically long, and comparable over time. At the same time, this paper illustrates the possibility of greatly expanding our knowledge of the daily lives of teachers in the past beyond collecting impressions from qualitative sources.

¹ The figure comes from the one percent unweighted 2000 sample. The sample is restricted to individuals who are teachers (n.e.c.) in the 1950 occupation code (OCC 1950), working in educational services in the 1950 industry code (IND 1950), not living in institutions, and participating in the labor force.

This paper finds that, in general, about 70 percent of teachers lived in a nuclear family and 15 percent of them lived with non-relatives. Discussed in a descriptive manner are stability and change in the distribution of the living arrangements by region, gender, and race, and possible reasons for them. Whenever necessary, the living arrangements are explained in broad historical contexts. Beyond the descriptive analyses, a multinomial logit model is used to pinpoint the determinants of forms of living arrangements and to estimate the sizes of their effects; personal, household, and location characteristics are mainly discussed.

2. Literature Review

In the history of US education, only scanty attention has been paid to teachers. Coffman (1911) and Elsbree (1939) are the first to shed considerable light on the history of teachers, followed by Mattingly (1975) after long silence on the subject. They tried to explain historically how teaching became a profession, i.e., the lives of teachers at work, so they neglected the daily lives of teachers in general and the living arrangements of teachers in particular. Warren (1989) edits papers that are devoted exclusively to the history of teachers and teacher training, but as the subtitle of the book indicates, this book is also about teachers at work. More recently, Hoffman (2003) tries to deliver the voices of conspicuous teachers, but mostly about their working lives.

The daily lives of teachers in history can be largely elucidated by qualitative materials such as diaries, letters, memoirs, and missionary reports. Kaufman (1984) uses diaries and letters to depict the daily as well as working lives of teachers who were sent west by the National Popular Education Board in the decade following 1846. Enss (2008) collects memoirs of some of the teachers who taught in the Old West in the nineteenth century. Although they partly succeed in describing the daily lives of teachers and their emotions, they fail to help one appreciate the living arrangements. In general, the living arrangements have to be guessed from the context. The following example illustrates the point: “The Carson Valley area where Eliza and her husband, Israel, settled in 1851 needed a place where children could learn the three R’s. In early 1852, the Motts offered their home as a temporary school; and, armed with a pair of McGuffey Readers, Eliza began teaching” (Enss 2008, 27). From the passage, one can infer that the teacher, Eliza Mott, lived with her husband. Besides the issue of guesswork, a more important issue is the selectivity of their samples; the gender of their samples is exclusively female, the race is exclusively white, and the geographical location is exclusively the West.

Relying on missionary reports, Yohn (1995) makes similar efforts with different geographical locations: Southern Colorado and Northern New Mexico between 1867 and 1924. Her sample is also biased: it consists of white female

teachers in two Western areas. More problematic for this paper is that it is concerned more with the lives of natives perceived by teachers than the lives of teachers themselves. Guesswork of the living arrangements is all the more hazardous. An example is as follows:

When Hyson began her work, she complained of limited resources, warning the Woman's Executive Committee that the dirt floors and drafty conditions of her rooms would cause respiratory disease and other damage to her health and well-being. She was not generous in her assessment of the Hispano people with whom she lived and worked (Yohn 1995, 129).

From the second sentence, one may guess that the teacher, Alice Hyson, boarded in a Hispano family. However, it is unclear whether "lived" in the sentence means living in a community or in a house; only in the latter case is boarding the correct guess.

Weiler (1998) makes use of other materials aside from qualitative materials to interweave teachers' history with feminism, demography, politics, economy, and institutions, but she limits her attention to female teachers in two rural California counties from 1850 to 1950. Even when she has local census data, she provides only vague statements about the living arrangements. One example is as follows: "The great majority of teachers listed in the Tulare and Kings County censuses between 1880 and 1920 were young, unmarried, white women, living in their parents' households or, by 1920, as boarders with families or in boardinghouses" (Weiler 1998, 143).

To be nationally or at least regionally representative, quantitative analysis is inevitable; it is difficult to generalize impressions gleaned from qualitative materials. Bernard and Vinovskis (1977) lead the way by studying demographic and occupational characteristics of female teachers in antebellum Massachusetts. Strober and Best (1979) focus on a single city in a single year, San Francisco in 1879, to measure the gender wage gap of public school teachers. Later, Carter (1986) extends the geographical coverage to the country, creating a nationally representative sample, but her interest lies in the occupational and demographic characteristics of teachers. Rather unusually, Fultz (1995) pays attention to black teachers from 1890 to 1940 using various data sets including the census, and yet his interest is the same as Carter's. Margo (1984) tries to look at both white and black teachers, but his data concern only their salaries in the South in 1910. Perlmann and Margo's (2001) work is more comprehensive; they use nationally representative data whenever possible, and their period of interest stretches to the colonial period. Their interests, however, do not differ much from those of the previous literature. Similarly, Sohn (2012) covers the US as a whole, but he investigates the social class origins of teachers between 1860 and 1920.

As can be seen, it is difficult to find studies that are closely related to this paper. Findings that are the closest to this paper are reported in a survey of teachers in Connecticut in 1924: "nearly one-third of those in one-room schools

and 8% in consolidated schools were boarding in homes which had children in their school” (Clifford 1975a, 264). Although it does contribute to our understanding about the living arrangements of teachers in the past, this survey provides a too limited aspect of their living arrangements.

Hence, teachers have not been at the center of the history of US education in spite of their important roles in education. Even if they have, the interests of researchers lie mostly in their lives at work. When their daily lives do receive some attention, historical materials to uncover them are selective. In turn, when representative data are tapped into, their daily lives are neglected. This paper connects the two issues that have hitherto remained separate, i.e., the daily lives of teachers and national representativeness, initiating research that uses nationally representative data to understand the daily lives of teachers, specifically their living arrangements, from 1860 to 1910.

3. Data

This paper draws on the Integrated Public Use Microdata Series, which is a collection of US census data starting in 1850. The period of interest ranges from 1850 to 1910, during which fundamental changes such as feminization and bureaucratization took place in US education (e.g., Cubberley 1919, ch. 8; Perlmann and Margo 2001; Jeynes 2007, chs. 6, 7). The data for 1850 exclude the occupations of women and blacks, and the data for 1890 were lost in a fire. Hence, the years actually covered in this paper consist of 1860, 1870, 1880, 1900, and 1910. Furthermore, because black teachers are one of our research interests, data with black oversamples are used, whenever possible.²

Teachers are clearly identified from the variables of occupation and industry. Specifically, a worker is defined as a teacher in this paper if his primary occupation is “teachers (n.e.c.)” and his industry is “educational services.”³

² Specifically, the following data are used: the one percent samples with black oversample for 1860 and 1870; the 10 percent sample for 1880; the five percent sample for 1900; and the 1.4 percent sample with oversamples for 1910.

³ The variable of occupation is based on the 1950 Census Bureau occupational classification system (OCC 1950), which enhances comparability across years. The code of teachers (n.e.c.) is 93. Other types of teachers are excluded from analyses such as art teachers, dancing teachers, and music teachers. They are not considered “typical” schoolteachers, and just by examining OCC 1950, it is difficult to tell whether they engaged in teaching at all. In addition, their numbers are small: for example, whereas the number of art teachers, *including* artists, in the one percent 1910 sample, is 377, the corresponding number for teachers (n.e.c.) is 5,703. The variable of industry is based on the 1950 Census Bureau industrial classification system (IND 1950), which also enhances comparability across years. The code of educational services is 888; the application of IND 1950 is inconsequential for results because this code is assigned to almost all teachers. Studying Southern white women who taught freed people in the South, Butchart (2010, 56) points out that under-enumeration of

Note, however, that an occupation in the census refers to a primary occupation. During the period of interest, it was not uncommon to combine teaching with other occupations such as farming, bell-ringing, and grave-digging (Elsbree 1939, ch. 18; Perlmann and Margo 2001, ch. 1). Also, teaching was not a year-long occupation, especially in rural areas in early years; in general, men taught in winter and women taught in summer. And yet, teaching became a year-long occupation, and the gender distinction by seasons blurred as bureaucratization progressed, numbers of students increased, and school terms grew longer. One should be aware of the changing characteristics of teaching during the period with regard to the classification of teachers in the census.⁴

The focus of this paper is placed on living arrangements. There are many ways of classifying living arrangements. The census distinguishes living arrangements largely based on whether or not an individual lived in a group quarter.⁵ Omitted are teachers who resided in institutions, which include correctional institutions, mental institutions, and institutions for the elderly, handicapped, and poor. The reason is that they were likely to be characteristically different from school teachers. Because few teachers resided in institutions, however, the restriction does not matter. In essence, a group quarter in this paper is defined as non-institutional group quarter. A teacher in a household is further distinguished based on his or her relationship with the household head.⁶

female occupations can be problematic in the census: many women in the census are designated as "keeping house," "at home," or "attending school." One must be cautious in asserting the under-enumeration, however, because the designations may actually be true. At least, the woman herself or a person who knew her well reported her occupation in the census. Also, the possibility cannot be ignored that data that are considered authoritative such as school records are incorrect, as school records might not be up-to-date.

⁴ Another concern with the definition of a teacher is that changes in universe and coding regarding the collection of occupational information may affect comparisons over time. The universe indeed changed, but the changes are irrelevant for teachers. For example, all persons were asked about their primary occupation in 1870, whereas the same question was asked to persons aged 10 and above and others with a regular occupation in 1880. Because a certain level of education was required to become a teacher, which raised the ages of teachers, the minimum age requirement in the universe must not have affected the pool of teachers. Occupational coding also changed decade by decade. For example, in the nineteenth century, work settings and economic sector received greater emphasis than a worker's specific technical function. In this case, one's industry is known, but not necessarily his occupation. Harmonized occupational and industry coding was created to minimize the problem, and this paper uses the coding for occupation and industry. In addition, census manuscript responses for the period of interest were directly transcribed into OCC 1950, so coding errors are expected to be small. Furthermore, such a generally known occupation as a teacher is unlikely to be subject to coding errors.

⁵ In the census, group quarters are defined as units with 10 or more individuals unrelated to the householder.

⁶ Individuals self-reported their relationship to the head of household in 1880 and following, but prior to that date this relationship was imputed by the census. That distinction makes it difficult to interpret trends in these variables, as there is a clear break in methodology be-

If he or she was a household head, a spouse, or a child to the household head, he or she is designated as living in a nuclear family. If he or she was a relative (other than a nuclear family member) to the household head, he or she is designated as living with distant relatives. Finally, if he or she was unrelated to the household head, he or she is designated as living with non-relatives. The definitions of relatives and non-relatives in the classification follow those provided in the census. Hence, there are four distinct forms of living arrangements: living in a nuclear family, living with distant relatives in a household, living with non-relatives in a household, and living in a group quarter.⁷

Census data have many advantages over diaries, letters, memoirs, missionary reports, and even local statistical data, which are usually relied upon in the literature. Most of all, census data are nationally representative, periodically long, and comparable over time. The wide geographical coverage helps us appreciate how teachers lived not only in a few local settings but also across the country. The characteristic of representativeness addresses the concern of biased observations. Also, the length of the time covered by the data facilitates charting of trends in the living arrangements. Not only are the data geographically wide and long in terms of time, each variable is comparable across states and years, which improves consistency in the trend.⁸

In contrast, other types of data lack one or all of the characteristics. Not all teachers in the country write diaries, letters, memoirs, or missionary reports. Also, these materials cover a short period, one's lifetime at the longest. Local statistical data are not nationally representative by definition, and most local data are collected irregularly. Also, even if local data sets could be connected by period or location, it would be difficult to make connected data sets comparable across states or time because each data set uses different definitions of variables. For example, the occupation termed "teacher" may include not only school teachers but also school administrators in some data sets, but not in other data sets.

Of course, census data are not superior to other types of data in all aspects. If so, only census data would have been used in the history of education. Most

tween 1870 and 1880. And yet, this break is of little concern because most of the analyses focus on the years between 1880 and 1910. Even when statistics for 1860 and 1870 are used, there are no discernable discontinuities in the trends between 1870 and 1880.

⁷ One may argue that the siblings of the head/householder can be considered nuclear families. The same argument can be extended to in-laws and even grandchildren. Just as living arrangements can be categorized in various ways, types of relatives can be categorized in various ways. Although other categorizations do have merit, the above distinctions are followed below because a unit of heads/householders, spouses, and children seem to be the most immediate unit of family.

⁸ The panel of states/territories included in the West region over time is not a balanced one. For example, Alaska is not in the sample for 1850-1860, 1940, and 1950. However, only a few states are excluded in the sample for the period between 1860 and 1910, and even the states are relatively small in terms of population.

of all, census data do not provide information on detailed aspects of the living arrangements of teachers. For example, an Arizona Perkins wrote in her diary that she found her landlord very pleasant and friendly (Kaufman 1984, 129). Another critical disadvantage is a lack of longitudinal information on living arrangements, as teachers changed their living arrangements. For example, they might initially live with their parents, but when they moved to other states, they would go into boarding houses. Alternatively, teachers might choose to board, but they would change their places of boarding. A good example of this is teachers who moved from the Northeast to the West and the South. When a Sarah Ballard (later Sarah Thurston) from Worcester, MA was sent by the National Popular Education Board to Rosendale and Grand Marsh, WI, she boarded in several locations. Once she married, however, she stopped boarding and planned to teach at home by building an addition to her house for a school (Kaufman 1984, 208-10). Unfortunately, census data are silent on dynamics of this kind in living arrangements. As can be seen below, however, census data have enough variables for an initial study on the living arrangements of teachers from 1860 to 1910.

4. Results

4.1 The Living Arrangements in the Country

Because white teachers were numerically dominant during the period, they are examined first, followed by comparisons of the living arrangements of white and black teachers. Two figures are reported in each cell in Table 1: the figure outside parentheses refers to teachers, and the figure in parentheses refers to the comparison group. This style of reference will continue to be used from now on. The comparison group consists of all individuals aged between 15 and 65 inclusive who resided in non-institutional group quarters and participated in the labor force. Depending on the group of interest, further restrictions are imposed on the sample such as gender and race. Of course, a comparison group can be defined in other ways: other age ranges can be chosen, or specific occupations can be selected. Because we would like to know how teachers differed in living arrangements compared with general workers, the comparison group in this paper refers to general workers. Also, at the outset, it needs to be noted that time-series statistics of the distributions are not presented because the distributions varied little across the years except for the South (more on the South in Subsection 4.2). This point is important because it implies that one broad historical trend alone does not predominate in stability and change in the distribution of the living arrangements such as urbanization (more in Subsections 4.2) and the feminization of teaching (more in Subsections 4.3); the stability and

change are complicated, so more need to be taken into account at the same time (more in Subsection 4.5).

Table 1: Distribution of White Teachers by Region and Living Arrangement

	Northeast	Midwest	South	West	All Regions
Nuclear family	67.70 (73.93)	71.60 (77.74)	68.09 (82.40)	60.35 (63.06)	69.02 (76.50)
Distant Relatives	9.96 (5.62)	8.52 (4.46)	11.22 (5.59)	8.07 (4.10)	9.48 (5.09)
Non-Relatives	15.03 (16.29)	16.16 (13.73)	14.78 (9.99)	20.36 (19.33)	15.78 (14.14)
Group Quarter	7.30 (4.16)	3.71 (4.07)	5.91 (2.02)	11.22 (13.51)	5.72 (4.28)
N	17,281 (1,073,572)	23,288 (1,158,927)	10,735 (714,990)	3,173 (214,894)	54,477 (3,162,383)

Notes: Figures outside parentheses refer to teachers whereas figures in parentheses refer to the comparison group. The comparison group consists of all individuals aged between 15 and 65 inclusive who resided in non-institutional group quarters and participated in the labor force. All the figures are the average of each form of living arrangements from 1860 to 1910. Time-series statistics of the distribution are not shown because the distribution varies little across the years.

The table shows that about 70 percent of white teachers lived in a nuclear family in all regions and in all years, but that the proportion was 7.5 percentage points smaller than the comparison group. Living with non-relatives was the second most popular mode of living. About 16 percent of white teachers in all regions and in all years lived in such a way, and this figure is very similar to that of the comparison group. Regional differences notwithstanding, the dominance of the form of living in a nuclear family challenges the early impression that boarding around is a pervasive nineteenth-century practice (Clifford 1975a, 264; Maxcy 1979, 267; Hoffman 2003, 82-4). The protagonist in the Legend of Sleepy Hollow, Ichabod Crane, reinforces the impression.⁹ This finding highlights the importance of using representative data. The evidence unambiguously tells that boarding was never pervasive across regions and years, although the possibility remains that a typical teacher might have boarded at least one time in his or her career.

The finding has an implication for the teacher labor market. There is some evidence that in principle, the teacher labor market was working at the national level already in the early 19th century, but the dominance of living in a nuclear family suggests that in practice, the market was working mostly at the local level. Because a male teacher could have taken his entire family to a new place, the market could be considered working at the national level (Tolley and Bead-

⁹ Although the story is set circa 1790, Ichabod Crane seems to capture the image of teachers in our period of interest well.

ie 2006). However, the fact that living in a nuclear family was the prevailing type even for the female teaching force maintains that the market was in operation at the local level.

The reason that living in a nuclear family was dominant in the literature can be attributed to the tendency of migration. At least with regard to female teachers, a cultural prejudice against unattached women who lived alone would discourage them from leaving home. Parents might want to keep their daughters at nest (Hoffman 2003, 103-17). This would be especially the case when most of the female teachers came from the middle class and (rich) farming houses (Sohn 2012). In spite of difficulties in defining, measuring, and estimating the proportion, Sohn (2011) estimates that, in 1880, only 8.3 percent of white young female teachers migrated across states. As a local history of teachers and Subsection 4.5 demonstrate (e.g., Johnson 1975; Bern 1975), teachers born and residing in the same state were more likely to live in a nuclear family. These pieces of evidence suggest that qualitative sources provide a biased view of the past. When keeping a diary was a way to relieve loneliness in a boarding house, teachers residing in boarding houses would be more likely to do so. When teachers lived in a nuclear family, they did not need to write letters to their parents. Adventurous teachers had more interesting stories to tell in memoirs. Missionary reports were by definition written by missionaries, and for our case, by single female missionaries sent away from home. It may be more exciting to study the experiences of migrant teachers, but the quantitative evidence suggests that the majority of teachers led more mundane lives, living in a nuclear family.

4.2 The Living Arrangements by Region

At first glance, the distributions of the living arrangements differ little by region in Table 1, but a careful reading of figures in and out of the table reveals some notable differences. The differences are especially noteworthy when they are related to a regional and historical context. As the focus is narrowed on the form of living in a nuclear family, the South becomes a subject of much interest. There, while teachers who lived in a nuclear family increased from 59.5 percent in 1860 to 72.5 percent by 1910, teachers who lived with non-relatives decreased from 24.8 percent to 13.3 percent (results not shown). In contrast, both forms of living arrangements varied little for the comparison group. For example, the form of living in a nuclear family for the comparison group rose from 80.3 percent in 1860 to only 82.2 percent by 1910 (results not shown). Thus, white teachers in the South did not follow the trend in the living arrangements of the comparison group.

For this form of living arrangements, the South also exhibited the largest gap between the teacher group and the comparison group, namely, 14.3 percentage points, which was about twice the overall gap. The gap is largely at-

tributed to the strong preference of the comparison group for living in a nuclear family. In fact, 68.1 percent of white teachers in the South chose this form of living arrangements, which was nearly the same as the overall proportion. In contrast, 82.4 percent of the comparison group lived in such a way, which was greater than the overall proportion of 76.5 percent. Thus, with regard to the form of living in a nuclear family, white teachers in the South seemed to follow closely the main form of living arrangements in the profession rather than that in the region. It is another issue why the comparison group in the South strongly preferred living in a nuclear family. One main reason appears to be the importance of agriculture in the region. The Midwest, another agro-based region, also displayed a strong preference for this form of living arrangements.

Living arrangements in the West were distinct from those in other regions. The proportion of white teachers living in a nuclear family was 60.4 percent for the entire period, whereas the proportions were higher in the rest of the regions. Similarly, teachers who lived with non-relatives and who lived in a group quarter accounted for 20.4 percent and 11.2 percent, respectively, in the West, but the *combined* proportions were about 20 percent in the other regions. These characteristics of living arrangements in the West are in accordance with the migratory characteristic of the region, and the comparison group also displayed the same characteristic.

However, the same characteristic does not apply to the Midwest, where the proportion of teachers living in a nuclear family was the highest. Thus, stories of single female teachers from the Northeast who were zealously devoted to educating ignorant settlers in the new territory seem to be unrepresentative of teachers in the Midwest. It is not that there were few migrations of the kind; the emphasis lies in representativeness. In fact, among white female teachers aged between 15 and 35, who were a very mobile group of teachers, 13.6 percent of teachers born in the Northeast were found in the Midwest in 1880. And yet, as much as 94.1 percent of teachers born in the Midwest were found in the same region (Sohn 2011). Simply put, the stories exaggerate the western migration of teachers born in the Northeast. It could be objected that the stories are correct at least during the early period of settlement, but the proportion of teachers living in a nuclear family was still as high as 71.9 percent in 1860 (results not shown). Just as farming was a family-based activity in the Midwest, teaching also seemed to reflect this regional characteristic.

One characteristic of the Northeast that was distinct from the other regions was its high urbanization levels. The levels were already noticeable in the early nineteenth century (Williamson 1965). Perlmann and Margo (1989, 70) “expect that living at home was the norm among teachers in urban areas.” It is unclear how they come up with this expectation, but the relationship between the living arrangements and urbanization is not simple. For example, as urbanization advanced, the distance between teachers’ homes and their schools would become closer, which might help teachers commute from home. On the other

hand, if urbanization came with cultural and physical freedom of mobility, more teachers would leave home. In addition, unless urbanization was a dominant force on changes in the living arrangements, other factors must have cancelled out the effects of urbanization. Reflecting the complicated relationship, simple tabulations do not bear their expectation out. With regard to a cross-sectional analysis, the Northeast was the most urbanized region, but the proportion of living at home (here, living in a nuclear family) was roughly equal to the national mean. With regard to a times-series analysis, while urbanization swept the country and particularly rapidly in the Northeast, the proportion of teachers living at home in the Northeast varied little over time. As seen from the relationship between urbanization and the form of living in a nuclear family, the relationship of the form of living with non-relatives cannot be presumed to be simple. In fact, as urbanization progressed further by the end of the nineteenth century, Progressive moralists and reformers protested against boarding and lodging (here, living with non-relatives) that were practiced in the Northeast (Modell and Hareven 1973, 468-9). The practice was even called “the lodger evil.” The outcry notwithstanding, the proportion of the form of living with non-relatives barely changed in the Northeast over the period. It seems that urbanization was not critical for the living arrangements. Subsection 4.5 disentangles the intricate relationship between the living arrangements and urbanization by controlling for other relevant variables. The results indicate that urbanization is associated less with the form of living in a nuclear family and more with the form of living with non-relatives.

4.3 The Living Arrangements by Gender

As much as the patterns of living arrangements differed by region, they might also differ by gender because married women were, *de jure* or *de facto*, prohibited from teaching during the period. In fact, as reported in Table A-1, 41.3 percent of white male teachers were married with spouses present from 1880 to 1910, whereas the corresponding figure was only 3.6 percent for white female teachers. In contrast, being never married/single was the proportionally dominant form of marital status for female teachers, namely 92.0 percent. Also note that marital status changed little across the years for both genders, so these numbers can be generalized for the whole period.¹⁰

¹⁰ Incidentally, it is found that although widowed female teachers frequently appear in the history of education, they were never numerically important. In fact, the proportion of widowhood among female teachers was nearly the same as that of male teachers, which indicates that widowed female teachers receive too much attention relative to their male counterparts. The overrepresentation is understandable given that feminism has fueled most of the recent histories of teachers; naturally, feminism pays more attention to women. For example, Enss (2008, 40-9) describes the life of a widow, Tabitha Brown. Similarly, Kaufman

Table 2: Distribution of White Teachers by Gender and Living Arrangement

	Male	Female
Nuclear Family	73.72	67.24
Distant Relatives	5.88	10.85
Non-Relatives	15.66	15.82
Group Quarter	4.74	6.09
N	14,938	39,539

Notes: All figures are the average of each form of living arrangements from 1860 to 1910. Time-series statistics of the distribution are not shown because the distribution varies little across the years.

Table 2 demonstrates that although their marital status is contrasted in a dramatic fashion, the living arrangements differed little by gender except for living with distant relatives. 73.7 percent of male teachers lived in a nuclear family, and the corresponding figure for female teachers was roughly similar at 67.2 percent. The proportions of the rest of the forms of living arrangement were virtually the same for both genders.

The different patterns of marital status, but similar patterns of living arrangements by gender can be largely explained by their relations to heads/householders. As can be seen in Table A-2, more than half of the male teachers during the period were heads/householders, when they lived in a nuclear family. By contrast, almost all female teachers, about 90 percent, were the children of heads/householders. This fact is not inconsistent with stories in qualitative materials that some parents discouraged female children from teaching away from home (e.g., Hoffman 2003, 103-17). Hence, although the majority of both male and female teachers lived in a nuclear family, male teachers lived as heads/householders (if married), but female teachers lived as dependents.¹¹

The second largest form of living arrangements for both genders is living with non-relatives, which partially reflects migratory characteristics of teaching during the period. Although the proportions varied little across the years, it is possible that the status of residents changed within the form of living arrangements. Table 3 confirms this conjecture. When the three most prevalent forms of living with non-relatives are considered, the proportion of male boarders decreased from 86.4 percent in 1880 to 62.0 percent by 1910, which resulted

(1984, Appendix D) lists two teachers who had been widowed before they became pioneer teachers: Abby Willard Stanton and Flora Davis Winslow.

¹¹ The proportion of heads/householders increased from 47.6 percent in 1860 to 60.2 percent by 1910, which is in stark contrast to the stable proportion for female teachers. One possible reason is that as school terms became longer, teaching became a more stable occupation that even heads/householders could pursue and became less likely to be steppingstones for later careers such as ministers, lawyers, and doctors, or secondary jobs that single males usually took up. In fact, the median age of male teachers rose from 25.5 years in 1860 to 29.0 years by 1910. Although more rigorous education requirements for teaching were a factor for the increase, the stability of teaching as an occupation seems to be another contributing factor to the increase.

from increases of similar size in the percentage points of both lodgers and roomers. Although not as pronounced as the case of male teachers, patterns were similar for female teachers.

Table 3: Changes in the Distribution of White Teachers by Gender and Relation to the Household Head: Only White Teachers Who Lived with Non-Relatives

	Male				Female			
Year	1880	1900	1910	All Years	1880	1900	1910	All Years
Boarders	86.37 (59.70)	76.28 (65.21)	61.96 (52.94)	74.53 (57.17)	81.01 (22.22)	79.37 (29.25)	63.50 (25.49)	74.18 (23.53)
Lodgers	0.65 (2.15)	10.25 (8.34)	14.12 (17.74)	4.87 (6.44)	0.91 (0.87)	8.82 (5.00)	14.77 (11.69)	5.85 (3.50)
Roomer	0.32 (0.63)	5.86 (3.74)	11.37 (7.10)	3.12 (2.61)	0.35 (0.28)	3.57 (2.43)	8.84 (4.49)	2.85 (1.48)
Total	87.34 (62.48)	92.39 (77.29)	87.45 (77.78)	82.52 (66.22)	82.27 (23.37)	91.76 (36.68)	87.11 (41.67)	82.88 (28.51)

Notes: Figures outside parentheses refer to teachers whereas figures in parentheses refer to the comparison group. The comparison group consists of all individuals aged between 15 and 65 inclusive who resided in non-institutional group quarters and participated in the labor force. "All years" include years from 1880 to 1910. The total does not sum up to 100 because other minor categories are omitted. Detailed codes are unavailable for the years 1860 and 1870.

The changes in the living arrangements might follow the general trends. In fact, the comparison groups also displayed preferences against boarding and for lodging and rooming. As far as boarding is concerned, however, the changes were not as clear as for teachers. The preference for boarding increased between 1880 and 1900 for both comparison groups, which stands in contrast to the continuous decrease for teachers. Hence, the general trend cannot explain the changes in the preferences. Also, this contrast refutes the possibility that there was just a cultural change in the use of the terms of boarding, lodging, and rooming. It is difficult to understand how lodgers differed from roomers, but Table 3 depicts the general pattern that more teachers, whether male or female, became independent in the sense that they prepared their own meals rather than landlords doing it for them.¹²

When gender is discussed in the context of living arrangements, the feminization of teaching cannot be omitted because of its importance in the history of US education. Before the feminization seriously begun, Horace Mann, then the secretary of the Massachusetts Board of Education, already advocated using female teachers by asking a rhetorical question: "Is not woman destined to conduct the rising generation, of both sexes, at least through all the primary

¹² The differences in boarding proportions between teachers and the comparison groups are mostly explained by the proportions of servants.

stages of education? Has not the Author of nature preadapted her, by constitution, and faculty, and temperament for this noble work?" (quoted from Hoffman 2003, 4). Among white teachers in the US, the proportion of women was already 60.5 percent in 1860, and it reached 84.0 percent by 1920. Under the marriage bar, which was rigidly enforced until the Second World War, the feminization essentially means that more single women accounted for the teaching profession. Depending on characteristics of single female teachers vis-à-vis those of (married and single) male teachers, the living arrangements would change. For example, if single female teachers were more mobile, possibly because they were unattached, the form of living in a nuclear family would decline over time. Instead, if they were less mobile, possibly because they were conservative or their parents did not want them to move far alone, the proportion of living in a nuclear family would increase over time. Furthermore, just as in the case of the relationship between the living arrangements and urbanization, other factors must have modified the effects of the feminization on the living arrangements. Hence, it is not surprising to find that bivariate analysis does not support this expectation. Recall from the discussion of Table 1 that the distribution of the living arrangements changed little during the period; this is also the case for each gender, which is why time-series statistics are omitted in relation to Table 2. One may suspect that the conflicting directions of mobility of single female teachers produced the constant results. However, male teachers also showed similar patterns over time for the distribution of the overall living arrangements and of the form of living with non-relatives. Subsection 4.5 demonstrates the importance of holding other relevant variables constant; the overall result indicates that women were less likely to live in a nuclear family.

4.4 The Living Arrangements by Race

Teachers other than white and black teachers were so rare during the period that the following analysis compares only white and black teachers. Also, Table A-3 presents that about 90 percent of black teachers lived in the South, whereas the distribution of white teachers was not skewed to the same extent. The geographically uneven distribution of black teachers is not surprising because the mass migration of blacks to the North had not yet taken place. Hence, understanding black teachers in the country is almost synonymous with understanding black teachers in the South.

Two points in Table 4 stand out with regard to changes in the living arrangements by race. First, few black teachers lived in a group quarter. It is granted that the figure for the comparison group also indicates that living in a group quarter was rare for the black population. Even when compared with the comparison group, however, few black teachers lived in group quarters, especially in 1900 and 1910. It could be that racial discrimination against blacks

prevented them from building group quarters for black teachers. Alternatively, the reason could be more innocuous. Recall that black teachers tended to stay in the South. They might want to stay in the South, or their movement might be restricted because of few better outside options, a lack of funds needed for migration, or adverse terms and conditions of work contracts. If they stayed in the South for certain reasons, the demand for group quarters must have been low. The next subsection provides evidence supporting this point in that a teacher who resided in the same state as the birth state was more likely to live in a nuclear family with relevant variables being controlled for.¹³

Second, with the passage of time, more black teachers lived in a nuclear family and fewer black teachers lived with non-relatives. In contrast, proportions for both cases were more or less stable for white teachers. Specifically, the proportion of white teachers who lived in a nuclear family fluctuated within a narrow band of 69 percent, and the proportion for living with non-relatives did so within a small range of 16 percent. On the other hand, 68.6 percent and 21.1 percent of black teachers lived in a nuclear family and with non-relatives, respectively, in 1880; the corresponding figures changed to 81.8 percent and 9.0 percent by 1910. The black comparison group also showed a stronger preference for living in a nuclear family, but only to a small extent: its proportion for living in a nuclear family rose slightly from 76.0 percent to 79.3 percent between 1880 and 1910.

Table 4: Changes in the Distribution of Teachers by Race and Living Arrangement

Year	Black				White			
	1880	1900	1910	All Years	1880	1900	1910	All Years
Nuclear Family	68.57 (75.96)	79.92 (77.85)	81.76 (79.30)	74.06 (76.77)	67.06 (76.04)	71.20 (77.69)	69.06 (75.41)	69.02 (76.55)
Distant Relatives	8.53 (4.50)	9.38 (6.12)	9.01 (6.37)	8.90 (5.08)	9.21 (4.47)	10.03 (5.37)	8.77 (5.96)	9.48 (5.03)
Non-Relatives	21.07 (17.85)	10.51 (14.56)	9.01 (13.01)	15.95 (16.54)	17.71 (14.95)	13.20 (13.23)	16.53 (13.82)	15.78 (14.13)
Group Quarter	1.83 (1.70)	0.19 (1.47)	0.21 (1.31)	1.08 (1.60)	6.02 (4.55)	5.57 (3.72)	5.64 (4.80)	5.72 (4.28)
N	1,642 (452,049)	1,056 (165,557)	477 (73,857)	3,235 (691,463)	23,117 (1,406,722)	20,898 (1,111,055)	7,974 (464,204)	54,477 (2,981,981)

Notes: Figures outside parentheses refer to teachers whereas figures in parentheses refer to the comparison group. The comparison group consists of all individuals aged between 15 and 65 inclusive who resided in non-institutional group quarters and participated in the labor force. "All years" include years from 1880 to 1910. Because the sample sizes of black teachers are only 7 and 53 for 1860 and 1870, respectively, the starting year is 1880.

¹³ For further discussion on black migration, see Johnson and Campbell (1981) and Jones (2009, ch. 5).

One partial reason for the increasing proportion of black teachers living in a nuclear family could be that, although not allowed for white female teachers, more married black women became teachers. According to Table A-4, 15.6 percent of black female teachers were married with spouses present in 1880, and the proportion jumped to 25.0 percent by 1910. Thus, as the feminization of teaching progressed, the proportion of female teachers rose for both black and white female teachers. However, more black female teachers were married, whereas white female teachers continued to be dependents, a fact verified in Table A-5: the proportion of spouses for black teachers soared from 7.6 percent in 1880 to 20.3 percent by 1910, whereas the proportion of children was stable around 76 percent for white teachers.¹⁴

It could be objected that comparing black and white teachers in the country as a whole is misleading because about 90 percent of black teachers lived in the South. Hence, a more comparable white group would be white teachers in the South. When the white group is compared, the direction of the changes in the distribution of the living arrangements is similar, but the size of the changes is more pronounced for black teachers. Specifically, for the white group between 1880 and 1910, the proportion of teachers living in a nuclear family rose from 62.1 to 72.5 percent, and the proportion of those living with non-relatives dropped from 19.2 percent to 13.3 percent (results not shown). It appears that black and white teachers in the South shared similar trends in living arrangements, but they still belonged to two distinct groups.

4.5 Determinants of the Living Arrangements

Discussed so far are descriptive statistics related to the living arrangements by region, gender, and race. Discussions usually proceed with who lived how and possibly why. In this subsection, analysis extends beyond descriptive statistics to finding their determinants more systematically. Stressed above is the importance of controlling for relevant variables to recognize the complicated relationship of the living arrangements with other variables of interest. A multinomial logit model is applied for the purpose. The dependent variable is the four forms of living arrangements, with the form of living in a nuclear family being the reference category. We select independent variables that are considered to be exogenous. Personal characteristics include gender, race, age, whether a person did not live in her birth state (move), and whether a person

¹⁴ It is another issue why married women were allowed to teach for blacks but not for whites. No systematic research has been done to answer this question, but two reasons can be conjectured. The first is that there were not enough teachers for black students, especially when blacks were prohibited from learning reading and writing in the antebellum South and white teachers in general avoided teaching black students in the postbellum South. Another reason could be that the marriage bar was not rigidly applied to black female teachers because black teachers taught only black students.

was born in the US (native). The “farm” variable is a household characteristic, which represents whether the occupation of anyone in the household was a farmer. Because there is only one primary occupation for one person, a farm household indicates that at least one person in the family with whom the teacher lived was a farmer. Geographical characteristics consist of urbanity, size of place, and census region.¹⁵

There is little to argue against exogeneity of the variables of gender, race, age, farm, and all the geographical characteristics because all of them were given to a teacher. Elaboration is necessary on the variables of “move” and “native,” however. The variable of move is endogenous if forms of living arrangements affected the choice of migration or a third factor caused both forms of living arrangements and the choice of migration. For example, if there were distant relatives who could provide accommodations in a certain state, the teacher would be more likely to move to that state than otherwise. And yet, migration could be forced. For example, she might follow her parents in childhood, in which case, the variable of move is exogenous. Alternatively, even if she chose to move, the variable is exogenous if her decision of migration was unrelated to teaching. It is impossible to know why she moved just by examining the census. Hence, the variable of move may not be completely exogenous, but it may not be entirely endogenous, either. If endogeneity of the variable is of concern, it can be regarded as a control variable. Similar arguments are applied to the variable of native. The only difference between them is that whereas the variable of move concerns mobility *within* a country, the variable of native concerns mobility *between* countries.

¹⁵ A rather strong assumption is required for the use of the multinomial logit model, namely the independence of irrelevant alternatives. This assumption implies that the relative odds between the two alternatives are not affected by adding a third alternative to the choice set. Specifically for this paper, this assumption requires that the odds of living in a nuclear family and living with distant relatives are invariant to adding the alternative of living with non-relatives or living in group quarters. The same logic applies to all other possible combinations of relative odds. There are a few tests for this assumption, among which the most used are tests suggested by Hausman and McFadden (1984) and Small and Hsiao (1985). Unfortunately, both tests yield inconsistent and counterintuitive results (see Cheng and Long 2007). Thus, it is difficult to test whether or not the assumption is satisfied. Alternative models are available such as the models of generalized extreme value, multinomial probit, and mixed logit. All the alternative models require their own strong assumptions, however. For example, the use of the models of generalized extreme value and multinomial probit requires the assumption of the invariant proportion of substitution. Moreover, they are computationally costly. For these reasons, although not perfect, this paper relies on a multinomial logit model.

Table 5: Odds Ratios of Alternative Living Arrangements versus Living in a Nuclear Family: Multinomial Logit

	Distant Relatives 1	Non- relatives 2	Group Quarter 3	Distant Relatives 4	Non- relatives 5	Group Quarter 6	Distant Relatives 7	Non- relatives 8	Group Quarter 9
Female	2.281 (-0.089)***	1.164 (0.032)***	1.808 (0.089)***	2.338 (0.092)***	1.190 (0.033)***	1.878 (0.094)***	2.348 (0.092)***	1.208 (0.034)***	1.892 (0.095)***
White	1.126 (0.078)*	0.921 (0.051)	5.315 (0.936)***	1.128 (0.079)*	0.948 (0.052)	5.461 (0.962)***	1.138 (0.079)*	0.955 (0.054)	5.434 (0.958)***
Age	1.065 (0.007)***	1.048 (0.007)***	1.075 (0.010)***	1.069 (0.007)***	1.055 (0.007)***	1.080 (0.010)***	1.069 (0.007)***	1.053 (0.007)***	1.079 (0.010)***
Age Squared	1.000 (<0.000)***	0.999 (<0.000)***	0.999 (<0.000)***	0.999 (<0.000)***	0.999 (<0.000)***	0.999 (<0.000)***	0.999 (<0.000)***	0.999 (<0.000)***	0.999 (<0.000)***
Move	1.268 (0.044)***	2.144 (0.057)***	3.061 (0.142)***	1.237 (0.043)***	2.071 (0.056)***	2.980 (0.139)***	1.233 (0.043)***	2.075 (0.056)***	2.981 (0.140)***
Native	1.032 (0.071)	0.824 (0.040)***	0.441 (0.025)***	1.031 (0.071)	0.826 (0.040)***	0.446 (0.025)***	1.030 (0.071)	0.827 (0.040)***	0.443 (0.025)***
Farm	1.341 (0.053)***	1.214 (0.037)***	0.004 (0.002)***	1.349 (0.053)***	1.241 (0.038)***	0.004 (0.002)***	1.357 (0.054)***	1.268 (0.039)***	0.004 (0.002)***
Urban	1.035 (0.067)	1.043 (0.054)	1.219 (0.104)**	1.020 (0.066)	1.019 (0.052)	1.179 (0.100)*	1.043 (0.068)	1.078 (0.056)	1.213 (0.104)**
Size of Place 1,000-9,999	1.149 (0.067)**	1.037 (0.047)	0.940 (0.074)	1.190 (0.070)***	1.105 (0.051)**	1.016 (0.080)	1.181 (0.069)***	1.087 (0.050)*	1.008 (0.080)
Size of Place 10,000-99,999	1.219 (0.097)**	1.106 (0.070)	1.361 (0.134)***	1.285 (0.103)***	1.209 (0.077)***	1.522 (0.150)***	1.260 (0.101)***	1.148 (0.074)**	1.495 (0.148)***

Table 5 continued...

Size of Place 100,000+	1.533 (0.119)***	0.896 (0.058)*	1.823 (0.175)***	1.620 (0.126)***	0.978 (0.063)	2.034 (0.195)***	1.579 (0.124)***	0.908 (0.056)	1.975 (0.191)***
Midwest	0.901 (0.034)***	0.861 (0.026)***	0.626 (0.031)***	0.922 (0.035)**	0.885 (0.027)***	0.640 (0.032)***	0.923 (0.211)	0.840 (0.160)	0.736 (0.405)
South	1.242 (0.052)***	0.899 (0.033)***	1.188 (0.067)***	1.277 (0.054)***	0.926 (0.034)**	1.206 (0.068)***	1.325 (0.347)	1.823 (0.365)***	4.288 (1.848)***
West	0.833 (0.062)**	1.018 (0.054)	1.130 (0.080)*	0.894 (0.067)	1.092 (0.058)	1.239 (0.089)***	1.351 (1.127)	1.096 (0.773)	<0.000 (<0.000)***
Year	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Region-by- Year	No	No	No	No	No	No	Yes	Yes	Yes
Pseudo R ²	0.067				0.069				0.072

Notes: Size of place under 1,000 or unincorporated is omitted for size of place. The region of Northeast is omitted for census regions. The sample size is 57,712. Standard errors are in parentheses. ***: p-value <0.01, **: p-value <0.05, *: p-value <0.10.

Three specifications are used to check the robustness of the estimates. Year and region-by-year dummies are added to the basic model incrementally. The dummies of year and region-by-year are omitted from the basic specification as in Columns 1-3 of Table 5. Because the living arrangements could differ in different years, year dummies are added to the basic specification as in Columns 4-6. Finally, it is possible that each region could show distinct patterns of living arrangements each year, so region-by-year dummies are further added to control for them as in Columns 7-9.

The odds ratio of each variable is reported for ease of interpretation. In Columns 1-3, one can find that female gender increases the odds of living with distant relatives, living with non-relatives, and living in a group quarter instead of living in a nuclear family by 128.1 percent, 16.4 percent, and 80.8 percent, respectively. The main reason seems to be that almost all female teachers were single and, related to this, more migratory.

As can be anticipated from Table 4, white race increases the odds of living in a group quarter instead of living in a nuclear family by more than five times. Also, one additional year of age raises the odds of all forms of living arrangements instead of living in a nuclear family by about 6 percent. In other words, older teachers were less likely to live in a nuclear family. This finding is of some interest because it contradicts the common notion that, as teachers grew older, they settled down to live in a nuclear family.¹⁶

A teacher who did not live in her birth state is 26.8 percent more likely to live with distant relatives than live in a nuclear family. The odds ratios increase further for living with non-relatives and living in a group quarter by more than two times and three times, respectively. This pattern of living arrangements demonstrates that, as teachers moved out of their birth state, they were more likely to live with strangers. Because the concept of being native is similar to that of moving, both odds ratios show similar patterns. Being native decreases the odds of living with non-relatives and living in a group quarter instead of living in a nuclear family by 17.6 percent and 55.9 percent, respectively. In other words, a teacher who moved between countries was more likely to live with strangers.

A group quarter is classified as non-farms in the census, so it is immaterial to see the extremely low odds ratio of the variable of farm. More interesting results are odds ratios for the other forms of living arrangements. If a household contained a farmer, the odds of living with distant relatives instead of living in a nuclear family rise by 34.1 percent. The corresponding odds for living with non-relatives are 21.4 percent. Overall, it is understood that farm households were more likely to accommodate teachers whether teachers were distant-relatives or non-relatives compared to non-farm households. Because

¹⁶ The variable of age squared is always statistically significant at conventional levels, but its odds ratio is virtually one, which makes the variable lose its substantive effects.

urbanity is controlled for, farm households raise the possibility of living with distant- or non-relatives independent of the effects of rural characteristics. It could be that farm households had more rooms available or a stronger need to earn extra money (supply effects) or that unattached teachers preferred farm households even in the same area (demand effects) for reasons yet to be uncovered.

Living in a group quarter seemed to be a phenomenon that took place only in urban areas. Living in urban areas increases the odds of living in a group-quarter instead of living in a nuclear family by 21.9 percent. In contrast, urbanity does not have any statistically significant effects on other forms of living arrangements because the size of place captures its effects. As the size increases, the odds of living with distant relatives and of living in a group quarter instead of living in a nuclear family increase dramatically. Relative to a place with less than 1,000 people, the odds of living in a group quarter instead of living in a nuclear family rise by 82.3 percent if the teacher lived in a place with more than 100,000 people.

As can be expected from Table 1, the Midwest had characteristics of family-based living arrangements. Compared to the Northeast, the odds of living in a nuclear family are always higher than other forms of living arrangements. Moreover, when people with whom a teacher lived were less related, the odds of opting for other forms of living arrangements instead of living in a nuclear family decrease further. In contrast, teaching in the South increases the odds of living with distant relatives and living in a group quarter instead of living in a nuclear family by 24.2 percent and 18.8 percent, respectively. Compared to the Northeast, teachers who taught in the South tended to avoid living with non-relatives, however. It could be that teachers in the South did not like to live with strangers too closely. They would rather choose living at least with people they knew (distant relatives) or living completely independent of others (group quarters). It is difficult to provide any plausible reason for the patterns of the choices, and the answer awaits future research. Teaching in the West is impressionistically associated with frontier teachers. If frontier teachers did not have relatives in the West, they would be more likely to live with strangers or would establish their own families. In fact, this appears to be the case. Compared to the Northeast, teaching in the West increases the odds of living in a group quarter instead of living in a nuclear family by 13.0 percent. When year dummies are added, the odds grow to 23.9 percent (see Column 6). In contrast, the odds of living in a nuclear family instead of living with distant relatives are 16.7 percent higher. Caution is required in taking the last result because the odds are not robust to adding year dummies, however (see Column 4).

Finally, all the coefficients are similar across specifications, which indicates that the effects of the independent variables on the dependent variable are robust to changes in the specifications. The coefficients on the region dummies are exceptions, but this can be largely explained by their interactions with the

year dummies. When the first and second specifications are compared, the sizes of the coefficients on the region dummies are qualitatively the same.

5. Conclusions

Not enough attention has been paid to teachers in the history of US education. Even when consideration is given to them, it is mostly their lives at work. Diaries, letters, memoirs, and missionary reports are available for forming an impression of their daily lives, but these types of historical sources are not sufficient to consistently cover the country as a whole over a long period of time. This paper highlights the living arrangements of teachers, among many aspects of their daily lives.

Using the US census data from 1860 to 1910, this paper attempts to provide descriptive statistics of the living arrangements of teachers by region, gender, and race. Also attempted is to find the determinants of the forms of living arrangements and the sizes of their effects. Some findings are new, and others conform to previous understandings. Even with regard to the latter, this paper contributes to the literature by producing specific numbers instead of impressions. One of the surprising findings is that most of the teachers lived in a nuclear family; this is true regardless of regions, genders, and races. This paper illustrates that the living arrangements reflect regional characteristics such as farming and migration. It is also newly found that the living arrangements differ little by gender in spite of their substantially different marital status: about 70 percent of both male and female teachers lived in a nuclear family across the years, but about half of male teachers were heads/householders whereas about 90 percent of female teachers were dependents. Black teachers are usually neglected in the literature, but they are also brought into analysis. Their living arrangements differed from those of white teachers to some extent. Specifically, a less proportion of black teachers lived in a group quarter than white teachers, and the proportion of black teachers living in a nuclear family grew over time in contrast to the constant proportion of white teachers. A lax application of the marriage bar to black female teachers seems to be the main reason for the increase. Finally, in a more systematic analysis by a multinomial logit model, a teacher with the following characteristics is found to be more likely to live in a nuclear family: male, white, young, staying in the birth state, native born. Places with the following characteristics are found to be more likely to have a teacher who lived in a nuclear family: non-farm, small size of place, and the Midwest. The model also demonstrates that it is important to control for relevant variables to explain the relationship of the living arrangements with broad historical trends such as urbanization and the feminization of teaching.

The previous literature largely fails to shed quantitative light on the daily lives of teachers. This paper demonstrates how to combine topics in the daily lives of teachers with nationally representative data sets over a long period of time, especially focusing on the living arrangements of teachers from 1860 to 1910. Although qualitative studies complement quantitative studies, the former prevails in an understanding of the daily lives of teachers. If researchers in the history of education want to go beyond sketching mere impressions of the lives of teachers outside schools, more systematic methods are recommended. Toward to this goal, quantitative analyses as illustrated in this paper provide a great possibility of deepening our understanding of teachers in the past. Although the period of interest is different from that of this paper, promising topics in this line of research include an understanding of the dwelling characteristics or uses of home appliances among teachers, relevant variables of which are available in the census.

Appendix

Table A-1: Changes in the Distribution of White Teachers by Gender and Marital Status

Year	Male				Female			
	1880	1900	1910	All Years	1880	1900	1910	All Years
Married, Spouse Present	41.21	40.78	43.15	41.26	3.76	3.20	4.07	3.58
Married, Spouse Absent	2.07	2.02	1.77	2.01	1.27	0.78	0.56	0.95
Divorced	0.21	0.19	0.19	0.20	0.39	0.42	0.42	0.41
Widowed	2.64	2.26	2.33	2.46	3.86	2.60	2.43	3.10
Never Married/Single	53.87	54.76	52.56	54.06	90.71	92.99	92.52	91.95
N	7,154	5,307	1,585	14,046	15,963	15,591	6,389	37,943

Notes: "All years" include years from 1880 to 1910. Although marital status is not reported for years 1860 and 1870, it can be identified by using the variable of SPLOC whether spouse is present or not. The proportions of spouse present for white male and female teachers were 34.4 percent and 6.8 percent, respectively, in 1860. The corresponding figures in 1870 were 42.3 percent and 4.5 percent.

Table A-2: Changes in the Distribution of White Teachers by Gender and Relation to the Household Head: Only White Teachers Who Lived in a Nuclear Family

	Male			Female		
Year	1860	1910	All Years	1860	1910	All Years
Head/Householder	47.56	60.23	56.42	5.86	7.35	6.07
Spouse	0.00	0.00	0.02	6.07	5.24	4.33
Child	52.44	39.77	43.56	88.08	87.42	89.59
N	307	1,192	11,012	478	4,315	26,587

Note: "All years" include years from 1860 to 1910. Statistics for years between 1860 and 1910 are not shown because the trend line of the statistics generally connects statistics for the end years.

Table A-3: Changes in the Distribution of Teachers by Race and Region

	Black				White			
Year	1880	1900	1910	All Years	1880	1900	1910	All Years
Northeast	3.29	1.70	1.26	2.63	34.02	29.53	27.58	31.72
Midwest	10.05	8.24	4.19	8.56	43.17	44.24	39.70	42.75
South	86.54	90.06	93.92	88.66	19.09	19.51	21.81	19.71
West	0.12	0.00	0.63	0.15	3.72	6.71	10.91	5.82
N	1,642	1,056	477	3,235	23,117	20,898	7,974	54,477

Notes: "All years" include years from 1880 to 1910. Because the sample sizes of black teachers are only 7 and 53 for 1860 and 1870, respectively, the starting year is 1880.

Table A-4: Changes in the Distribution of Female Teachers by Race and Marital Status

	Black				White			
Year	1880	1900	1910	All Years	1880	1900	1910	All Years
Married, Spouse Present	15.58	18.18	25.00	18.52	3.76	3.21	4.07	3.58
Married, Spouse Absent	3.90	3.18	1.15	3.06	1.27	0.78	0.56	0.95
Divorced	0.43	0.76	0.86	0.65	0.39	0.42	0.42	0.41
Widowed	5.77	6.36	6.61	6.17	3.86	2.60	2.43	3.10
Never Married/Single	74.31	71.52	66.38	71.60	90.71	92.99	92.52	91.95
N	693	660	348	1,701	15,963	15,591	6,389	37,943

Notes: "All years" include years from 1880 to 1910. Although marital status is not reported for years 1860 and 1870, it can be identified by using the variable of SPLOC whether spouse is present or not. The proportion of white female teachers who were married and living with their spouse was 6.8 percent in 1860, and the corresponding figure was 4.5 percent in 1870. The corresponding figures for black female teachers are omitted because their small sample sizes (2 in 1860 and 19 in 1870) prevent any meaningful analysis.

Table A-5: Changes in the Distribution of Relation to the Household Head by Race: Only Teachers Who Lived in a Nuclear Family

	Black				White			
Year	1880	1900	1910	All Years	1880	1900	1910	All Years
Head/Householder	38.99	31.64	23.33	34.10	22.71	19.34	18.79	20.82
Spouse	7.64	12.80	20.26	11.44	3.01	2.72	4.10	3.07
Child	53.37	55.57	56.41	54.47	74.28	77.94	77.10	76.11
N	1,126	844	390	2,396	15,503	14,879	5,507	37,599

Notes: "All years" include years from 1880 to 1910. Because the sample sizes of black teachers are only 5 and 31 for 1860 and 1870, respectively, the starting year is 1880.

References

- Bern, Enid. 1975. Memoirs of a prairie school teacher. *North Dakota History* 42: 4-17.
- Bernard, Richard M., and Maris A. Vinovskis. 1977. The female school teacher in anti-bellum Massachusetts. *Journal of Social History* 10 (3): 332-45
- Butchart, Ronald E. 2010. *Schooling the freed people: Teaching, learning, and the struggle for black freedom, 1861-1876*. Chapel Hill, NC: University of North Carolina Press.
- Carter, Susan B. 1986. Occupational segregation, teachers' wages, and American economic growth. *Journal of Economic History* 46 (2): 373-83
- Cheng, Simon, and J. Scott Long. 2007. Test for IIA in the multinomial logit model. *Sociological Methods and Research* 35 (4): 583-600
- Clifford, Geraldine J. 1975a. Saints, sinners, and people: A position paper on the historiography of American education. *History of Education Quarterly* 15: 257-72.
- Clifford, Geraldine J. 1975b. *The shape of American education*. New York: Prentice Hall.
- Coffman, Lotus D. 1911. *The social composition of the teaching population*. New York: Columbia University Press.
- Cubberley, Ellwood P. 1919. *Public education in the United States: A study and interpretation of American educational history*. Cambridge, MA: The Riverside Press.
- Elsbree, Willard S. 1939. *The American teacher: Evolution of a profession in a democracy*. New York: American Book.
- Enss, Chris. 2008. *Frontier teachers: Series of heroic women of the Old West*. Guilford, CT: Twodot.
- Fultz, Michael. 1995. African-American teachers in the South, 1890-1940: Growth, feminization, and salary discrimination. *Teachers College Record* 96 (3): 544-68.
- Hausman, Jerry, and Daniel McFadden. 1984. Specification tests for the multinomial logit model. *Econometrica* 52 (5): 1219-40.
- Hoffman, Nancy. 2003. *Woman's "true" profession: Voices from the history of teaching*. 2nd ed. Cambridge, MA: Harvard Education Press.

- Jeynes, William H. 2007. *American educational history: School, society, and the common good*. Thousand Oaks, CA: Sage.
- Johnson, Anna. 1975. Recollections of a country school teacher. *Annals of Iowa* 42: 485-505.
- Johnson, Daniel M., and Rex R. Campbell. 1981. *Black migration in America: A social demographic history*. Durham, NC: Duke University Press.
- Jones, Jacqueline. 2009. *Labor of Love, Labor of Sorrow: Black Women, Work and the Family, from Slavery to the Present*. 2nd edition. New York: Basic Books.
- Kaufman, Polly Welts. 1984. *Women teachers on the frontier*. New Haven, CT: Yale University Press.
- Margo, Robert A. 1984. Teacher salaries in black and white: The South in 1910. *Exploration in Economic History* 21 (3): 306-26.
- Mattingly, Paul H. 1975. *The classless profession: American schoolmen in the nineteenth century*. New York: New York University Press.
- Maxcy, Spencer J. 1979. The teacher age in American rural education. *Journal of General Education* 30 (4): 267-74.
- Modell, John, and Tamara K. Hareven. 1973. Urbanization and the malleable household: An examination of boarding and lodging in American families. *Journal of Marriage and Family* 35 (3): 467-79.
- Perlmann, Joel, and Robert A. Margo. 1989. Who were America's teachers? Toward a social history and a data archive. *Historical Methods* 22 (2): 68-73.
- Perlmann, Joel, and Robert A. Margo. 2001. *Women's work? American school-teachers 1650-1920*. Chicago: University of Chicago Press.
- Small, Kenneth A., and Cheng Hsiao. 1985. Multinomial logit specification tests. *International Economic Review* 26 (3): 619-27.
- Sohn, Kitae. 2012. The social class origins of US teachers, 1860-1920. *Journal of Social History* 45 (4): 908-35.
- Sohn, Kitae. 2011. The migration patterns of US female teachers, 1860-80. mimeo.
- Strober, Myra H., and David Tyack. 1980. Why do women teach and men manage? A report on research on schools. *Signs* 5 (3): 494-503.
- Strober, Myra H., and Laura Best. 1979. The female/male salary differential in public schools: Some lessons from San Francisco, 1879. *Economic Inquiry* 17 (2): 218-36.
- Tolley, Kim, and Nancy Beadie. 2006. Socioeconomic incentives to teach in New York and North Carolina: Toward a more complex model of teacher labor markets, 1880-1850. *History of Education Quarterly* 46 (1): 36-72.
- Warren, Donald, ed. 1989. *American teachers: Histories of a profession at work*. New York: American Educational Research Association.
- Weiler, Kathleen. 1998. *Country schoolwomen: Teaching in rural California, 1850-1950*. Palo Alto, CA: Stanford University Press.
- Williamson, Jeffrey G. 1965. Antebellum urbanization in the American Northeast. *Journal of Economic History* 25 (4): 592-608.
- Yohn, Susan M. 1995. *A contest of faiths: Missionary women and pluralism in the American Southwest*. Ithaca, NY: Cornell University Press.